

Question #1 of 60

Question ID: 627695

Use the following information to answer Questions 1 through 6.


Martha Gillis, CFA, trades currencies for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of \$500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in [trading currencies](#) . One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the [currency trading strategies](#)  employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

According to CFA Institute Standards of Professional Conduct, Gillis may accept the invitation to attend the conference in Binaria without violating the Standards:

- A) so long as she pays her own travel expenses and refuses the gift of emeralds.
 - B) so long as she refuses the gift of emeralds.
 - C) because she would be the guest of a sovereign government.
-

Question #2 of 60

Question ID: 627696

Martha Gillis, CFA, [trades currencies](#) for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of \$500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in trading currencies. One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the [currency trading strategies](#) employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

Given that Gillis's weekly reports to clients are market summaries rather than specific investment recommendations, what are her record-keeping obligations according to CFA Institute Standards of Professional Conduct? Gillis must:

- A) maintain records of her conversations with local government officials and also keep copies of the research reports prepared by local analysts.
 - B) only maintain records of her conversations with local government officials and her own summaries of the research reports prepared by local analysts.
 - C) keep her own summaries of the research reports prepared by local analysts, but she has no obligation to maintain records of her conversations with local government officials.
-

Question #3 of 60

Question ID: 627697

Martha Gillis, CFA, trades currencies for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of \$500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in trading currencies. One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the currency trading strategies employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

Regarding Gillis's transactions in the Binaria currency, she has violated the Standards by:

- A) taking the long position and by selling the position before issuing a recommendation to clients.
- B) selling the position before issuing the recommendation to clients, although taking the long position was not a violation.
- C) not disclosing the trades in her report because the trades are acceptable as long as they are disclosed.

Question #4 of 60

Question ID: 627698

Martha Gillis, CFA, trades currencies for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of \$500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in trading currencies. One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the currency trading strategies employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed

opportunities to clients, Trent suggests that clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

According to CFA Institute Standards of Professional Conduct, Howlett's best course of action with regard to the suspected violations by Gillis would be to:

- A) meet with Gillis in person, explain the nature of the violations, and seek assurances that such violations will not recur.
 - B) warn Gillis to cease the trading activities and report the violation to Howlett's supervisor immediately.
 - C) place limits on Gillis's personal trading and increase monitoring of Gillis's personal trades.
-

Question #5 of 60

Question ID: 627699

Martha Gillis, CFA, trades currencies for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of \$500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in trading currencies. One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the currency trading strategies employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately

reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

.....

Based on the information given, and according to CFA Institute Standards, which of the following statements *best* describes Trent's compliance procedures relating to personal trading in foreign currencies? The compliance procedures:

- A) appear adequate because Howlett was able to identify potential violations.
- B) appear adequate, but Howlett's monitoring of Gillis's trades indicates poor supervisory responsibility.
- C) should include both duplicate confirmations of transactions and preclearance procedures for personal trades.

Question #6 of 60

Question ID: 627700

Martha Gillis, CFA, trades currencies for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of \$500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in trading currencies. One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the currency trading strategies employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

.....

Trent's arbitrage trading based on interest rate parity is successful mostly due to Trent's large size, which provides it with an advantage relative to smaller, competing currency trading firms. Has Trent violated CFA Institute Standards of Professional Conduct with respect to its trading strategy or its guarantee of results?

- A) The trading strategy and guarantee of results are both violations of CFA Institute Standards.
- B) The trading strategy is legitimate and does not violate CFA Institute Standards, but the guarantee of investment return is a violation of Standards.
- C) Both the trading strategy and guarantee statement comply with CFA Institute Standards.

Question #7 of 60

Question ID: 692423

Use the following information to answer Questions 7 through 12.

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT\$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are \$0.008852-56 for the yen and \$0.02874-6 for the Taiwanese dollar. He would like to purchase NT\$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for a country. Castillo states that, under the Mundell-Fleming model, if the U.S. Congress were to

unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the dollar in the short run because foreigners would have more confidence in the U.S. economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of \$1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented below:

Spot rate	\$0.85 / SF
Three-month forward rate (as of today) for SF	\$0.80 / SF
Expected spot rate three months from now	\$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%
Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder currently has several FX carry trades open and is concerned about unhedged foreign currency risk in his portfolio. Castillo recommends that whenever the funding currency appears to be significantly overvalued according to PPP, the position should be reversed. Surratt states that currency options can be useful indicators of potential risk in carry trades and recommends that if the implied volatility of the investment currency exceeds a predetermined threshold, a carry trade should be reversed.

.....

The yen cost to Carr of buying NT\$10 million is *closest* to:

- A) ¥3,077,000.
- B) ¥32,453,000.
- C) ¥32,490,000.

Question #8 of 60

Question ID: 692422

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT\$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are \$0.008852-56 for the yen and \$0.02874-6 for the Taiwanese dollar. He would like to purchase NT\$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby

narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for a country. Castillo states that, under the Mundell-Fleming model, if the U.S. Congress were to unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the dollar in the short run because foreigners would have more confidence in the U.S. economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of \$1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented below:

Spot rate	\$0.85 / SF
Three-month forward rate (as of today) for SF	\$0.80 / SF
Expected spot rate three months from now	\$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%
Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder currently has several FX carry trades open and is concerned about unhedged foreign currency risk in his portfolio. Castillo recommends that whenever the funding currency appears to be significantly overvalued according to PPP, the position should be reversed. Surratt states that currency options can be useful indicators of potential risk in carry trades and recommends that if the implied volatility of the investment currency exceeds a predetermined threshold, a carry trade should be reversed.

Are Surratt and Castillo correct with regard to their statements concerning the currency bid-ask spreads?

- A) Only Surratt is correct.
- B) Only Castillo is correct.
- C) Both Surratt and Castillo are correct.

Question #9 of 60

Question ID: 692426

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the

currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT\$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are \$0.008852-56 for the yen and \$0.02874-6 for the Taiwanese dollar. He would like to purchase NT\$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for a country. Castillo states that, under the Mundell-Fleming model, if the U.S. Congress were to unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the dollar in the short run because foreigners would have more confidence in the U.S. economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of \$1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented below:

Spot rate	\$0.85 / SF
Three-month forward rate (as of today) for SF	\$0.80 / SF
Expected spot rate three months from now	\$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%
Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder currently has several FX carry trades open and is concerned about unhedged foreign currency risk in his portfolio. Castillo recommends that whenever the funding currency appears to be significantly overvalued according to PPP, the position should be reversed. Surratt states that currency options can be useful indicators of potential risk in carry trades and recommends that if the implied volatility of the investment currency exceeds a predetermined threshold, a carry trade should be reversed.

.....

Evaluate Surratt's statements concerning the impact of monetary policy on currency values. Surratt is:

- A) correct.
- B) incorrect, because restrictive monetary policy in the United States would lead to a lower value of the dollar.
- C) incorrect, because restrictive U.S. monetary policy would be matched by foreign governments.

Question #10 of 60

Question ID: 692427

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT\$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are \$0.008852-56 for the yen and \$0.02874-6 for the Taiwanese dollar. He would like to purchase NT\$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for a country. Castillo states that, under the Mundell-Fleming model, if the U.S. Congress were to unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the dollar in the short run because foreigners would have more confidence in the U.S. economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of \$1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented below:

Spot rate	\$0.85 / SF
Three-month forward rate (as of today) for SF	\$0.80 / SF
Expected spot rate three months from now	\$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%
Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder currently has several FX carry trades open and is concerned about unhedged foreign currency risk in his portfolio. Castillo recommends that whenever the funding currency appears to be significantly overvalued according to PPP, the position should be reversed. Surratt states that currency options can be useful indicators of potential risk in carry trades and recommends that if the implied volatility of the investment currency exceeds a predetermined threshold, a carry trade should be reversed.

Regarding Castillo's statements concerning the effect of fiscal policy on currency values, Castillo is:

- A) correct.
- B) incorrect, because under the Mundell-Fleming model, restrictive U.S. fiscal policies lead to a short-run devaluation of the dollar.
- C) incorrect, because under the Mundell-Fleming model, restrictive U.S. fiscal policies lead to an increase in the value of the dollar in the long run.

Question #11 of 60

Question ID: 692424

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT\$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are \$0.008852-56 for the yen and \$0.02874-6 for the Taiwanese dollar. He would like to purchase NT\$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for a country. Castillo states that, under the Mundell-Fleming model, if the U.S. Congress were to unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the dollar in the short run because foreigners would have more confidence in the U.S. economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of \$1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented below:

Spot rate	\$0.85 / SF
Three-month forward rate (as of today) for SF	\$0.80 / SF
Expected spot rate three months from now	\$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%

Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder currently has several FX carry trades open and is concerned about unhedged foreign currency risk in his portfolio. Castillo recommends that whenever the funding currency appears to be significantly overvalued according to PPP, the position should be reversed. Surratt states that currency options can be useful indicators of potential risk in carry trades and recommends that if the implied volatility of the investment currency exceeds a predetermined threshold, a carry trade should be reversed.

.....

Which of the following *best* describes the covered interest arbitrage that Ponder should execute? Borrow in:

- A) Swiss francs to make an arbitrage profit of \$80,313.
- B) U.S. dollars to make an arbitrage profit of \$80,313.
- C) Swiss francs to make an arbitrage profit of \$75,588.

Question #12 of 60

Question ID: 692425

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT\$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT\$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are \$0.008852-56 for the yen and \$0.02874-6 for the Taiwanese dollar. He would like to purchase NT\$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for a country. Castillo states that, under the Mundell-Fleming model, if the U.S. Congress were to unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the dollar in the short run because foreigners would have more confidence in the U.S. economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of \$1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also

9/29/2016 V2 Exam 1 Morning
on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented below:

Spot rate	\$0.85 / SF
Three-month forward rate (as of today) for SF	\$0.80 / SF
Expected spot rate three months from now	\$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%
Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder currently has several FX carry trades open and is concerned about unhedged foreign currency risk in his portfolio. Castillo recommends that whenever the funding currency appears to be significantly overvalued according to PPP, the position should be reversed. Surratt states that currency options can be useful indicators of potential risk in carry trades and recommends that if the implied volatility of the investment currency exceeds a predetermined threshold, a carry trade should be reversed.

Regarding Castillo's and Surratt's statements about risk management of Ponder's FX carry trades:

- A) only Castillo is correct.
- B) only Surratt is correct.
- C) both Castillo and Surratt are correct.

Question #13 of 60

Question ID: 691559

Use the following information to answer Questions 13 through 18.

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan. The following information for 20X7 and 20X8 is provided.

<i>In millions, December 31</i>	<i>20X8</i>	<i>20X7</i>
Projected benefit obligation (PBO)	\$635	\$500
Current service cost	37	33
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45
Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%

Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

As of December 31, 20X8, the pension plan would be reflected on Iron Parts's balance sheet as a:

- A) \$175 million liability.
- B) \$240 million liability.
- C) \$183 million asset.

Question #14 of 60

Question ID: 691563

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan. The following information for 20X7 and 20X8 is provided.

<i>In millions, December 31</i>	20X8	20X7
Projected benefit obligation (PBO)	\$635	\$500
Current service cost	37	33
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45
Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%
Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

Which of the following *best* describes the effects of the change in Iron Parts's discount rate for 20X8, all else being equal?

- A) Service cost decreased and the pension plan appeared more funded.

- A) Service cost decreased and the pension plan appeared more funded.
- B) Pension expense decreased and the PBO increased.
- C) Interest cost increased and retained earnings decreased.

Question #15 of 60

Question ID: 691560

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan. The following information for 20X7 and 20X8 is provided.

<i>In millions, December 31</i>	<i>20X8</i>	<i>20X7</i>
Projected benefit obligation (PBO)	\$635	\$500
Current service cost	37	33
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45
Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%
Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

How much did Iron Parts contribute to its pension plan during 20X8?

- A) \$31 million.
- B) \$36 million.
- C) \$53 million.

Question #16 of 60

Question ID: 691564

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-

supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan. The following information for 20X7 and 20X8 is provided.

<i>In millions, December 31</i>	<i>20X8</i>	<i>20X7</i>
Projected benefit obligation (PBO)	\$635	\$500
Current service cost	37	33
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45
Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%
Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

Which of the following *best* describes the effect(s) of the change in Iron Parts's expected return on the plan assets, all else being equal?

- A) Pension expense decreased and the PBO increased.
- B) Retained earnings increased and the pension plan appeared more funded.
- C) Net income increased.

Question #17 of 60

Question ID: 691561

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan. The following information for 20X7 and 20X8 is provided.

<i>In millions, December 31</i>	<i>20X8</i>	<i>20X7</i>
Projected benefit obligation (PBO)	\$635	\$500
Current service cost	37	33
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45

Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%
Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

For this question only, assume that Iron Parts reports under IFRS. The amount of periodic pension cost reported on P&L would be *closest* to:

- A) \$48 million.
- B) \$69 million.
- C) \$127 million.

Question #18 of 60

Question ID: 691562

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of \$1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan. The following information for 20X7 and 20X8 is provided.

<i>In millions, December 31</i>	20X8	20X7
Projected benefit obligation (PBO)	\$635	\$500
Current service cost	37	33
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45
Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%
Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

For the year ended December 31, 20X8, Iron Parts's total periodic pension cost is *closest* to:

- A) \$67 million.
- B) \$120 million.
- C) \$157 million.

Question #19 of 60

Question ID: 691567

Use the following information to answer Questions 19 through 24.

Donnie Nelson, CFA, has just taken over as chief financial officer of MavsHD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavsHD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavsHD were \$145 million and \$21.75 million, respectively. The consensus estimate for net income at the end of the current year is \$153 million. The company's current book value is \$550 million. MavsHD's stock is currently trading on the NYSE for a price of \$50 per share and has been steadily decreasing for the past 12 months.

MavsHD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavsHD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by \$250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

- Director 1: I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends-this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.
- Director 2: A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavsHD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but would simultaneously increase the firm's ability to exploit value additive investment projects using internally generated funds. Because of this enhanced access to value additive projects, MavsHD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

.....

Using the target payout ratio adjustment model approach to estimate dividend increases, determine which of the following is *closest* to the target payout ratio estimated by MavsHD's managers.

- A) 15%.
- B) 20%.
- C) 25%.

Question #20 of 60

Question ID: 691570

Donnie Nelson, CFA, has just taken over as chief financial officer of MavsHD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavsHD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavsHD were \$145 million and \$21.75 million, respectively. The consensus estimate for net income at the end of the current year is \$153 million. The company's current book value is \$550 million. MavsHD's stock is currently trading on the NYSE for a price of \$50 per share and has been steadily decreasing for the past 12 months.

MavsHD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavsHD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by \$250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

- Director 1: I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends-this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.
- Director 2: A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavshD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but would simultaneously increase the firm's ability to exploit value additive investment projects using internally generated funds. Because of this enhanced access to value additive projects, MavshD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

.....

If the board proceeds with Nelson's proposed stock repurchase plan as suggested, which of the following is *least likely* to be true? MavshD:

- A) would be increasing financial leverage.
- B) is trying to signal the market that despite the declining share price, future prospects for the company are good.
- C) will reduce the wealth of all shareholders, including those who tender their shares for repurchase if the repurchase price is at a premium to the current stock price.

Question #21 of 60

Question ID: 691566

Donnie Nelson, CFA, has just taken over as chief financial officer of MavshD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavshD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavshD were \$145 million and \$21.75 million, respectively. The consensus estimate for net income at the end of the current year is \$153 million. The company's current book value is \$550 million. MavshD's stock is currently trading on the NYSE for a price of \$50 per share and has been steadily decreasing for the past 12 months.

MavshD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavshD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal

dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by \$250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

Director 1: I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends-this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.

Director 2: A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavsHD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but would simultaneously increase the firm's ability to exploit value additive investment projects using internally generated funds. Because of this enhanced access to value additive projects, MavsHD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

.....

For this question only, assume that MavsHD's marginal investor is in a 39.6% tax bracket for capital gains and a 15% tax bracket for dividends. If MavsHD declares a dividend of \$2.25 per share, the change in MavsHD's stock price when the stock goes ex-dividend will be *closest* to:

- A) 1.36.
- B) 1.91.
- C) 3.17.

Question #22 of 60

Question ID: 691565

Donnie Nelson, CFA, has just taken over as chief financial officer of MavsHD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavsHD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavsHD were \$145 million and \$21.75 million, respectively. The consensus estimate for net income at the end of the current year is \$153 million. The company's current book value is \$550 million. MavsHD's stock is currently trading on the NYSE for a price of \$50 per share and has been steadily decreasing for the past 12 months.

MavsHD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavsHD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by \$250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

Director 1: I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends-this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.

Director 2: A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavsHD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but would simultaneously increase the firm's ability to exploit value additive investment projects using internally generated funds. Because of this enhanced access to value additive projects, MavsHD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

.....

In light of the fact that several different groups of investors hold shares in MavsHD, evaluate the directors' comments regarding Nelson's proposed stock repurchase plan.

- A) Only Director 1 is correct.
- B) Only Director 2 is correct.
- C) Both Director 1 and Director 2 are correct.

Question #23 of 60

Question ID: 691568

Donnie Nelson, CFA, has just taken over as chief financial officer of MavsHD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavsHD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavsHD were \$145 million and \$21.75 million, respectively. The consensus estimate for net income at the end of the current year is \$153 million. The company's current book value is \$550 million. MavsHD's stock is currently trading on the NYSE for a price of \$50 per share and has been steadily decreasing for the past 12 months.

MavsHD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavsHD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by \$250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

Director 1: I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends-this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.

Director 2: A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavsHD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but would simultaneously increase the firm's ability to exploit value additive investment projects using internally generated funds. Because of this enhanced access to value additive projects, MavsHD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

.....

If MavsHD plans to make \$160 million in net investments in the current year, what will be the company's dividend payout ratio using the residual dividend model?

- A) 37.3%.
- B) 58.2%.
- C) 62.8%.

Question #24 of 60

Question ID: 691569

Donnie Nelson, CFA, has just taken over as chief financial officer of MavsHD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavsHD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavsHD were \$145 million and \$21.75 million, respectively. The consensus estimate for net income at the end of the current year is \$153 million. The company's current book value is \$550 million. MavsHD's stock is currently trading on the NYSE for a price of \$50 per share and has been steadily decreasing for the past 12 months.

MavsHD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavsHD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by \$250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

- Director 1: I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends-this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.
- Director 2: A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavsHD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but

Because of this enhanced access to value additive projects, MavsHD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

Evaluate Neely's comments about his proposed residual dividend plan. Neely's comments are:

- A)** correct.
- B)** incorrect, because the equity cost of capital would not decrease under the proposed plan.
- C)** incorrect, because the firm would not have greater access to internal funds for investment.

Question #25 of 60

Question ID: 691571

Use the following information to answer Questions 25 through 30.

Jared Rojas, CFA, is an analyst at Van Westmoreland Investments, an international equities investment firm. Rojas has been assigned to value three U.S. companies in the paper products industry. The long-term growth rate for this industry is expected to be 3.4%.

Basil Montreux Company (BMC) is the largest company in the paper products industry. BMC is considered to be a stable and mature company. The equity beta of BMC based on a single factor capital asset pricing model is 0.90.

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2.

Exhibit 1: Selected Financial Information for BMC

<i>Income Statement</i>	<i>20X2</i>
Revenue	\$20,000.0 million
EBITDA	\$3,750.0 million
Operating income	\$3,290.0 million
Interest expense	\$600.0 million
Income tax rate	30.0%
Payout ratio	72.0%
Total assets	\$31,997.0 million

Exhibit 2: Additional Information

Risk-free rate	4.0%
Market risk premium	5.0%
Size premium	2.0%
Value premium	4.0%
Liquidity premium	4.5%

Marcel Schultz Company (MSC) is another company in the paper products industry; MSC focuses on the specialty products niche. MSC is expected to enjoy a growth rate of 25% over the next three years, after which the growth rate is expected to match the overall industry growth rate. Last year's reported dividend was \$278.0 million and reported earnings were \$505.4 million.

MSC's market model regression beta is 1.12. Due to beta drift, this beta needs to be adjusted.

Sunil Gurpreet Company (SGC) is a small company focusing on new high-density paper, which has found application in the aerospace industry. SGC's earnings and revenues are expected to grow at 30% for eight years, after which time the technology will lose patent protection and SGC's growth rate will revert to the industry's overall growth rate. Last year's reported earnings were \$160 million but these earnings are believed to be of poor quality. SGC has never paid dividends. SGC's earnings can be volatile, but cash flows have been positive and stable. Rojas obtains inputs to estimate SGC's cost of equity as shown in Exhibit 3.

Exhibit 3: SGC's Cost of Equity Factor Exposures

SGC	β Market	β Size	β Value	β Liquidity
Factor sensitivities	1.20	0.50	-0.20	0.20

Rojas additionally gathers the following market data regarding the three companies:

Exhibit 4: Current Market Price and Shares Outstanding

Company	Market Price	Shares outstanding (millions)
BMC	\$26.50	1,000
MSC	\$34.25	250
SGC	\$28.45	100

Using an appropriate valuation model, the estimated value per share of BMC is *closest* to:

- A) \$16.50.
- B) \$26.50.
- C) \$27.60.

Question #26 of 60

Question ID: 691573

Jared Rojas, CFA, is an analyst at Van Westmoreland Investments, an international equities investment firm. Rojas has been assigned to value three U.S. companies in the paper products industry. The long-term growth rate for this industry is expected to be 3.4%.

Basil Montreux Company (BMC) is the largest company in the paper products industry. BMC is considered to be a stable and mature company. The equity beta of BMC based on a single factor capital asset pricing model is 0.90.

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2.

Exhibit 1: Selected Financial Information for BMC

<i>Income Statement</i>	<i>20X2</i>
Revenue	\$20,000.0 million
EBITDA	\$3,750.0 million
Operating income	\$3,290.0 million
Interest expense	\$600.0 million
Income tax rate	30.0%
Payout ratio	72.0%
Total assets	\$31,997.0 million

Exhibit 2: Additional Information

Risk-free rate	4.0%
Market risk premium	5.0%
Size premium	2.0%
Value premium	4.0%
Liquidity premium	4.5%

Marcel Schultz Company (MSC) is another company in the paper products industry; MSC focuses on the specialty products niche. MSC is expected to enjoy a growth rate of 25% over the next three years, after which the growth rate is expected to match the overall industry growth rate. Last year's reported dividend was \$278.0 million and reported earnings were \$505.4 million.

MSC's market model regression beta is 1.12. Due to beta drift, this beta needs to be adjusted.

Sunil Gurpreet Company (SGC) is a small company focusing on new high-density paper, which has found application in the aerospace industry. SGC's earnings and revenues are expected to grow at 30% for eight years, after which time the technology will lose patent protection and SGC's growth rate will revert to the industry's overall growth rate. Last year's reported earnings were \$160 million but these earnings are believed to be of poor quality. SGC has never paid dividends. SGC's earnings can be volatile, but cash flows have been positive and stable. Rojas obtains inputs to estimate SGC's cost of equity as shown in Exhibit 3.

Exhibit 3: SGC's Cost of Equity Factor Exposures

<i>SGC</i>	<i>β Market</i>	<i>β Size</i>	<i>β Value</i>	<i>β Liquidity</i>
Factor sensitivities	1.20	0.50	-0.20	0.20

Rojas additionally gathers the following market data regarding the three companies:

Exhibit 4: Current Market Price and Shares Outstanding

<i>Company</i>	<i>Market Price</i>	<i>Shares outstanding (millions)</i>
BMC	\$26.50	1,000
MSC	\$34.25	250
SGC	\$28.45	100

Using an appropriate valuation model, the estimated value per share of MSC is *closest* to:

- A) \$33.00.
- B) \$33.80.
- C) \$34.50.

Question #27 of 60

Question ID: 691574

Jared Rojas, CFA, is an analyst at Van Westmoreland Investments, an international equities investment firm. Rojas has been assigned to value three U.S. companies in the paper products industry. The long-term growth rate for this industry is expected to be 3.4%.

Basil Montreux Company (BMC) is the largest company in the paper products industry. BMC is considered to be a stable and mature company. The equity beta of BMC based on a single factor capital asset pricing model is 0.90.

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2.

Exhibit 1: Selected Financial Information for BMC

<i>Income Statement</i>	<i>20X2</i>
Revenue	\$20,000.0 million
EBITDA	\$3,750.0 million
Operating income	\$3,290.0 million
Interest expense	\$600.0 million
Income tax rate	30.0%
Payout ratio	72.0%
Total assets	\$31,997.0 million

Exhibit 2: Additional Information

Risk-free rate	4.0%
Market risk premium	5.0%
Size premium	2.0%
Value premium	4.0%
Liquidity premium	4.5%

Marcel Schultz Company (MSC) is another company in the paper products industry; MSC focuses on the specialty products niche. MSC is expected to enjoy a growth rate of 25% over the next three years, after which the growth rate is expected to match the overall industry growth rate. Last year's reported dividend was \$278.0 million and reported earnings were \$505.4 million.

MSC's market model regression beta is 1.12. Due to beta drift, this beta needs to be adjusted.

Sunil Gurpreet Company (SGC) is a small company focusing on new high-density paper, which has found application in the aerospace industry. SGC's earnings and revenues are expected to grow at 30% for eight years, after which time the

technology will lose patent protection and SGC's growth rate will revert to the industry's overall growth rate. Last year's reported earnings were \$160 million but these earnings are believed to be of poor quality. SGC has never paid dividends. SGC's earnings can be volatile, but cash flows have been positive and stable. Rojas obtains inputs to estimate SGC's cost of equity as shown in Exhibit 3.

Exhibit 3: SGC's Cost of Equity Factor Exposures

SGC	β Market	β Size	β Value	β Liquidity
Factor sensitivities	1.20	0.50	-0.20	0.20

Rojas additionally gathers the following market data regarding the three companies:

Exhibit 4: Current Market Price and Shares Outstanding

Company	Market Price	Shares outstanding (millions)
BMC	\$26.50	1,000
MSC	\$34.25	250
SGC	\$28.45	100

The *most appropriate* model to use in estimating the value of SGC is the:

- A) residual income model.
- B) dividend discount model.
- C) free cash flow model.

Question #28 of 60

Question ID: 691572

Jared Rojas, CFA, is an analyst at Van Westmoreland Investments, an international equities investment firm. Rojas has been assigned to value three U.S. companies in the paper products industry. The long-term growth rate for this industry is expected to be 3.4%.

Basil Montreux Company (BMC) is the largest company in the paper products industry. BMC is considered to be a stable and mature company. The equity beta of BMC based on a single factor capital asset pricing model is 0.90.

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2.

Exhibit 1: Selected Financial Information for BMC

Income Statement	20X2
Revenue	\$20,000.0 million
EBITDA	\$3,750.0 million
Operating income	\$3,290.0 million
Interest expense	\$600.0 million
Income tax rate	20.0%

Income tax rate	30.0%
Payout ratio	72.0%
Total assets	\$31,997.0 million

Exhibit 2: Additional Information

Risk-free rate	4.0%
Market risk premium	5.0%
Size premium	2.0%
Value premium	4.0%
Liquidity premium	4.5%

Marcel Schultz Company (MSC) is another company in the paper products industry; MSC focuses on the specialty products niche. MSC is expected to enjoy a growth rate of 25% over the next three years, after which the growth rate is expected to match the overall industry growth rate. Last year's reported dividend was \$278.0 million and reported earnings were \$505.4 million.

MSC's market model regression beta is 1.12. Due to beta drift, this beta needs to be adjusted.

Sunil Gurpreet Company (SGC) is a small company focusing on new high-density paper, which has found application in the aerospace industry. SGC's earnings and revenues are expected to grow at 30% for eight years, after which time the technology will lose patent protection and SGC's growth rate will revert to the industry's overall growth rate. Last year's reported earnings were \$160 million but these earnings are believed to be of poor quality. SGC has never paid dividends. SGC's earnings can be volatile, but cash flows have been positive and stable. Rojas obtains inputs to estimate SGC's cost of equity as shown in Exhibit 3.

Exhibit 3: SGC's Cost of Equity Factor Exposures

SGC	β Market	β Size	β Value	β Liquidity
Factor sensitivities	1.20	0.50	-0.20	0.20

Rojas additionally gathers the following market data regarding the three companies:

Exhibit 4: Current Market Price and Shares Outstanding

Company	Market Price	Shares outstanding (millions)
BMC	\$26.50	1,000
MSC	\$34.25	250
SGC	\$28.45	100

The fraction of SGC's market price that is attributable to the value of growth is *closest* to:

- A) 21%.
- B) 34%.
- C) 50%.

Question #29 of 60

Question ID: 692428

Jared Rojas, CFA, is an analyst at Van Westmoreland Investments, an international equities investment firm. Rojas has been assigned to value three U.S. companies in the paper products industry. The long-term growth rate for this industry is expected to be 3.4%.

Basil Montreux Company (BMC) is the largest company in the paper products industry. BMC is considered to be a stable and mature company. The equity beta of BMC based on a single factor capital asset pricing model is 0.90.

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2.

Exhibit 1: Selected Financial Information for BMC

<i>Income Statement</i>	<i>20X2</i>
Revenue	\$20,000.0 million
EBITDA	\$3,750.0 million
Operating income	\$3,290.0 million
Interest expense	\$600.0 million
Income tax rate	30.0%
Payout ratio	72.0%
Total assets	\$31,997.0 million

Exhibit 2: Additional Information

Risk-free rate	4.0%
Market risk premium	5.0%
Size premium	2.0%
Value premium	4.0%
Liquidity premium	4.5%

Marcel Schultz Company (MSC) is another company in the paper products industry; MSC focuses on the specialty products niche. MSC is expected to enjoy a growth rate of 25% over the next three years, after which the growth rate is expected to match the overall industry growth rate. Last year's reported dividend was \$278.0 million and reported earnings were \$505.4 million.

MSC's market model regression beta is 1.12. Due to beta drift, this beta needs to be adjusted.

Sunil Gurpreet Company (SGC) is a small company focusing on new high-density paper, which has found application in the aerospace industry. SGC's earnings and revenues are expected to grow at 30% for eight years, after which time the technology will lose patent protection and SGC's growth rate will revert to the industry's overall growth rate. Last year's reported earnings were \$160 million but these earnings are believed to be of poor quality. SGC has never paid dividends. SGC's earnings can be volatile, but cash flows have been positive and stable. Rojas obtains inputs to estimate SGC's cost of equity as shown in Exhibit 3.

Exhibit 3: SGC's Cost of Equity Factor Exposures

<i>SGC</i>	<i>β Market</i>	<i>β Size</i>	<i>β Value</i>	<i>β Liquidity</i>
Factor sensitivities	1.20	0.50	-0.20	0.20

Rojas additionally gathers the following market data regarding the three companies:

Exhibit 4: Current Market Price and Shares Outstanding

<i>Company</i>	<i>Market Price</i>	<i>Shares outstanding (millions)</i>
BMC	\$26.50	1,000
MSC	\$34.25	250
SGC	\$28.45	100

If the justified leading P/E for BMC stock is 14.1X, then BMC stock is *best* described as:

- A) overvalued.
- B) undervalued.
- C) fairly valued.

Question #30 of 60

Question ID: 691576

Jared Rojas, CFA, is an analyst at Van Westmoreland Investments, an international equities investment firm. Rojas has been assigned to value three U.S. companies in the paper products industry. The long-term growth rate for this industry is expected to be 3.4%.

Basil Montreux Company (BMC) is the largest company in the paper products industry. BMC is considered to be a stable and mature company. The equity beta of BMC based on a single factor capital asset pricing model is 0.90.

Exhibit 1 shows selected information from BMC's financial statements for the fiscal year ending 20X2.

Exhibit 1: Selected Financial Information for BMC

<i>Income Statement</i>	<i>20X2</i>
Revenue	\$20,000.0 million
EBITDA	\$3,750.0 million
Operating income	\$3,290.0 million
Interest expense	\$600.0 million
Income tax rate	30.0%
Payout ratio	72.0%
Total assets	\$31,997.0 million

Exhibit 2: Additional Information

Risk-free rate	4.0%
Market risk premium	5.0%
Size premium	2.0%
Value premium	1.0%

value premium	4.0%
---------------	------

Liquidity premium	4.5%
-------------------	------

Marcel Schultz Company (MSC) is another company in the paper products industry; MSC focuses on the specialty products niche. MSC is expected to enjoy a growth rate of 25% over the next three years, after which the growth rate is expected to match the overall industry growth rate. Last year's reported dividend was \$278.0 million and reported earnings were \$505.4 million.

MSC's market model regression beta is 1.12. Due to beta drift, this beta needs to be adjusted.

Sunil Gurpreet Company (SGC) is a small company focusing on new high-density paper, which has found application in the aerospace industry. SGC's earnings and revenues are expected to grow at 30% for eight years, after which time the technology will lose patent protection and SGC's growth rate will revert to the industry's overall growth rate. Last year's reported earnings were \$160 million but these earnings are believed to be of poor quality. SGC has never paid dividends. SGC's earnings can be volatile, but cash flows have been positive and stable. Rojas obtains inputs to estimate SGC's cost of equity as shown in Exhibit 3.

Exhibit 3: SGC's Cost of Equity Factor Exposures

SGC	β Market	β Size	β Value	β Liquidity
Factor sensitivities	1.20	0.50	-0.20	0.20

Rojas additionally gathers the following market data regarding the three companies:

Exhibit 4: Current Market Price and Shares Outstanding

Company	Market Price	Shares outstanding (millions)
BMC	\$26.50	1,000
MSC	\$34.25	250
SGC	\$28.45	100

For this question only, assume that SGC's cost of equity is 12% and that the firm pays a regular dividend, most recently \$0.80. If the initial growth rate is expected to decrease linearly over the coming eight years to the long-term industry growth rate, the estimated value of SGC stock is *closest* to:

- A) \$20.
- B) \$26.
- C) \$30.

Question #31 of 60

Question ID: 692429

Use the following information to answer Questions 31 through 36.

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry

members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010-2016

	2016	2015	2014	2013	2012	2011	2010
Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1: Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.

Advantage 2: For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3: Book value represents the historical purchase cost of assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio. Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1: EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.

Comment 2: Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

Using the information in Exhibit 1, estimate the P/E ratio for Flavia Stores using EPS estimated with the method of historical average EPS. The P/E ratio is *closest* to:

- A) 18.4.
- B) 20.6.
- C) 27.9.

Question #32 of 60

Question ID: 692430

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010-2016

	2016	2015	2014	2013	2012	2011	2010
Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1: Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.

Advantage 2: For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3: Book value represents the historical purchase cost of

assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio. Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1: EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.

Comment 2: Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

.....

Using the information in Exhibit 1, estimate the P/E ratio for Flavia Stores using EPS estimated with the method of average return on equity. The P/E ratio is *closest* to:

- A) 16.0.
- B) 18.8.
- C) 25.0.

Question #33 of 60

Question ID: 692434

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010-2016

2016	2015	2014	2013	2012	2011	2010

Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1: Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.

Advantage 2: For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3: Book value represents the historical purchase cost of assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio. Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1: EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.

Comment 2: Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

Which one of the three advantages recalled by Aims *most likely* represents a good reason to consider using a P/B ratio?

- A) Advantage 1.
- B) Advantage 2.
- C) Advantage 3.

Question #34 of 60

Question ID: 692432

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010-2016

	2016	2015	2014	2013	2012	2011	2010
Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1: Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.

Advantage 2: For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3: Book value represents the historical purchase cost of assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio. Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net

income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1: EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.

Comment 2: Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

Is Aims correct in describing how we could transform a justified P/E ratio into a P/S ratio or a P/B ratio?

- A) Yes.
- B) No. He is correct about the P/S ratio but incorrect about the P/B ratio.
- C) No. He is correct about the P/B ratio but incorrect about the P/S ratio.

Question #35 of 60

Question ID: 692431

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010-2016

	2016	2015	2014	2013	2012	2011	2010
Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1: Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.

Advantage 2: For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3: Book value represents the historical purchase cost of assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio. Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1: EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.

Comment 2: Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

When Aims further investigates the two investment criteria (the PEG ratio and the comparison between the trailing and leading P/E ratio), should he find his colleague's use of them to be appropriate?

- A) No.
- B) The PEG ratio criterion is appropriate, but the P/E ratio criterion is not.
- C) The P/E ratio criterion is appropriate, but the PEG ratio criterion is not.

Question #36 of 60

Question ID: 692433

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010-2016

	2016	2015	2014	2013	2012	2011	2010
Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1: Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.

Advantage 2: For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3: Book value represents the historical purchase cost of assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio. Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1: EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.

Comment 2: Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

Are Aims's two comments about the dividend yield and EBITDA ratios correct?

- A) Yes.
 - B) No. The comment about EBITDA ratios is correct, but the comment about dividend yields is incorrect.
 - C) No. The comment about dividend yields is correct, but the comment about EBITDA ratios is incorrect.
-

Question #37 of 60

Question ID: 691583

Use the following information to answer Questions 37 through 42.

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.

Statement 2: Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is

developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues.

Current revenues	\$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%
Working capital as a percent of sales	15%
SG&A expenses	\$5,400,000
Synergistic cost savings	\$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past ten years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1: I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.

Statement 2: The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

Regarding the statements made by McDonnell on the comparison of private firms and public firms, are both statements correct?

A) Yes.

- B) No, both statements are incorrect.
- C) No, one statement is correct, but the other statement is incorrect.

Question #38 of 60

Question ID: 691584

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.

Statement 2: Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues.

Current revenues	\$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%

Working capital as a percent of sales	15%
SG&A expenses	\$5,400,000
Synergistic cost savings	\$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past ten years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1: I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.

Statement 2: The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

Which of the following *best* describes the standard of value that McDonnell and Lutge will apply to Albion Biotechnology?

- A) Market value.
- B) Intrinsic value.
- C) Investment value.

Question #39 of 60

Question ID: 691585

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.

Statement 2: Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view

of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues.

Current revenues	\$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%
Working capital as a percent of sales	15%
SG&A expenses	\$5,400,000
Synergistic cost savings	\$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past ten years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1: I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.

Statement 2: The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

Which of the following is *closest* to the FCFF that McDonnell should estimate for Balanced Metals?

- A) -\$117,800.
- B) \$344,120.
- C) \$722,120.

Question #40 of 60

Question ID: 691586

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.

Statement 2: Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues.

Current revenues	\$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%
Working capital as a percent of sales	15%
SG&A expenses	\$5,400,000
Synergistic cost savings	\$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past ten years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1: I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.

Statement 2: The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

Which of the following income approaches would be *most* appropriate for valuing Balanced Metals?

- A) The free cash flow method.
- B) The excess earnings method.
- C) The capitalized cash flow method.

Question #41 of 60

Question ID: 691588

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.

Statement 2: Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues.

Current revenues	\$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%
Working capital as a percent of sales	15%
SG&A expenses	\$5,400,000
Synergistic cost savings	\$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past ten years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1: I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.

Statement 2: The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

.....

Which of the following is *closest* to the total adjustment for control and marketability that would be applied to the Jensen valuation?

- A) A discount of 5.3% would be applied.
- B) A discount of 36.0% would be applied.
- C) A discount of 42.7% would be applied.

Question #42 of 60

Question ID: 691587

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1: Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.

Statement 2: Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from

overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues.

Current revenues	\$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%
Working capital as a percent of sales	15%
SG&A expenses	\$5,400,000
Synergistic cost savings	\$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past ten years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1: I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.

Statement 2: The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

Regarding the statements made by McDonnell on Lutge's cost of capital calculations for Jensen, are both statements correct?

- A) Yes.
- B) No, both statements are incorrect.
- C) No, one statement is correct, but the other statement is incorrect.

Question #43 of 60

Question ID: 691589

Use the following information to answer Questions 43 through 48

Use the following information to answer questions 40 through 46.

Youri Wabush, CFA, works as an analyst for Solsbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: US Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot Rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented below in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

U.S. Treasury Spot Curve Progression

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20-25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A

Short term (2 yr.)	+70bps
Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps

Theoretical Shift B	
Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps
Theoretical Shift C	
Short term (2 yr.)	-10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

Based on information in Exhibit 1, which of the following statements is *least accurate*?

- A) Any U.S. Treasuries' forward curve will be upward sloping.
- B) Any U.S. Treasuries' forward curve will lie below the spot curve.
- C) A U.S. Treasuries' forward curve can be implied from the spot curve.

Question #44 of 60

Question ID: 691590

Youri Wabush, CFA, works as an analyst for Solsbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: US Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot Rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented below in Exhibit 2

income strategies that should be successful if these changes are realized. The notes are presented below in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

U.S. Treasury Spot Curve Progression

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20-25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A	
Short term (2 yr.)	+70bps
Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps
Theoretical Shift B	
Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps
Theoretical Shift C	
Short term (2 yr.)	-10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

Using the spot rate curve given in Exhibit 1, the one-year forward rate one year from today is closest to:

- A) 0.27%.
- B) 0.35%.
- C) 0.45%.

Question #45 of 60

Question ID: 691591

Youri Wabush, CFA, works as an analyst for Solsbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: US Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot Rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented below in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

U.S. Treasury Spot Curve Progression

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20-25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard

rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A	
Short term (2 yr.)	+70bps
Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps
Theoretical Shift B	
Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps
Theoretical Shift C	
Short term (2 yr.)	-10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

If Rafita's comments on the U.S. Treasury spot curve progression in Exhibit 2 prove to be correct, it is *most likely* that:

- A) the one-year holding period return on a two-year, zero-coupon U.S. Treasury starting today would be 0.13%.
- B) the one-year holding period return on a two-year, zero-coupon U.S. Treasury starting today would be 0.16%.
- C) the one-year holding period return on a two-year, zero-coupon U.S. Treasury starting today would be 0.29%.

Question #46 of 60

Question ID: 691592

TOM WABUSH, CFA, works as an analyst for Solisbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: US Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot Rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented below in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

U.S. Treasury Spot Curve Progression

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20-25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A	
Short term (2 yr.)	+70bps
Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps
Theoretical Shift B	

Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps
Theoretical Shift C	
Short term (2 yr.)	-10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

Fixed-income managers using the minority strategy described by Rafita in Exhibit 2 are *most likely* to:

- A) invest in bonds with a maturity longer than their investment horizon.
- B) match the maturity of the bond portfolio with their investment horizon.
- C) invest in bonds with a maturity shorter than their investment horizon.

Question #47 of 60

Question ID: 691594

Youri Wabush, CFA, works as an analyst for Solsbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: US Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot Rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented below in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

EXHIBIT 2: RANTA YIELD CURVE NOTES**U.S. Treasury Spot Curve Progression**

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20-25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A	
Short term (2 yr.)	+70bps
Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps
Theoretical Shift B	
Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps
Theoretical Shift C	
Short term (2 yr.)	-10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

If the rumors Wabush has heard regarding the central bank announcement are true, the uncertainty would *most likely* increase volatility:

- A) in short-term rates more than in long-term rates.
- B) in long-term rates more than in short-term rates.
- C) equally in long-term and short-term rates.

Question #48 of 60

Question ID: 691593

Youri Wabush, CFA, works as an analyst for Solsbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: US Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot Rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented below in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

U.S. Treasury Spot Curve Progression

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20-25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard

rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A	
Short term (2 yr.)	+70bps
Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps
Theoretical Shift B	
Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps
Theoretical Shift C	
Short term (2 yr.)	-10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

Given the information in Exhibits 3 and 4, which of the theoretical yield curve movements is *most likely* to result in a large percentage change in the value of Wabush's portfolio?

- A) Theoretical shift A.
- B) Theoretical shift B.
- C) Theoretical shift C.

Question #49 of 60

Question ID: 692436

Use the following information to answer Questions 49 through 54.

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an

investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be \$200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include \$10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown below in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	<i>LIBOR</i>	<i>Discount Factor</i>
1-Year	3.2%	0.9690
2-Year	4.1%	0.9242
3-Year	4.9%	0.8718
4-Year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

- Statement 1:* $N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
- Statement 2:* A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
- Statement 3:* For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
- Statement 4:* The value of a call option on futures is equal to the value of a portfolio with a long bond position and a short futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

Which of the following strategies would be *most* appropriate given Jacobs's situation and desire to offset the equity exposure of the ELFS position in her portfolio? Establish an equity swap as the:

- A) floating-rate payer and S&P 500 Index return receiver.
- B) fixed-rate receiver and S&P 500 Index return payer.
- C) fixed-rate payer and S&P 500 Index return receiver.

Question #50 of 60

Question ID: 692437

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be \$200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include \$10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown below in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	<i>LIBOR</i>	<i>Discount Factor</i>
1-Year	3.2%	0.9690
2-Year	4.1%	0.9242
3-Year	4.9%	0.8718
4-Year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

- Statement 1:* $N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
- Statement 2:* A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
- Statement 3:* For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
- Statement 4:* The value of a call option on futures is equal to the value of a portfolio with a long bond position and a short futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

Based on the strategy appropriate for Jacobs's portfolio, determine the contract rate on the swap strategy.

- A) 4.5%.
- B) 3.6%.
- C) 4.9%.

Question #51 of 60

Question ID: 692438

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be \$200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include \$10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown below in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	<i>LIBOR</i>	<i>Discount Factor</i>
1-Year	3.2%	0.9690
2-Year	4.1%	0.9242
3-Year	4.9%	0.8718
4-Year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

- Statement 1:* $N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
- Statement 2:* A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
- Statement 3:* For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
- Statement 4:* The value of a call option on futures is equal to the value of a portfolio with a long bond position and a short futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

If Jacobs enters into a \$10 million 4-year annual-pay floating-rate equity swap based on 1-year LIBOR and the total return on the S&P 500 Index, what is the value of the remaining 3-year swap to the floating-rate payer after one year if the index has increased from 1,054 to 1,103 and the LIBOR term structure is as given below?

LIBOR

4.10000 4.10%

1-year: 4.1%

2-year: 4.7%

3-year: 5.3%

- A) 0.
- B) \$48,935.
- C) \$9,583.

Question #52 of 60

Question ID: 692439

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be \$200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include \$10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown below in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	<i>LIBOR</i>	<i>Discount Factor</i>
1-Year	3.2%	0.9690
2-Year	4.1%	0.9242
3-Year	4.9%	0.8718
4-Year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

- Statement 1:* $N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
- Statement 2:* A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
- Statement 3:* For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
- Statement 4:* The value of a call option on futures is equal to the value of a portfolio with a long bond position and a short futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index

comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

Regarding statements 1 and 2 made by Widby:

- A) both statements are correct.
- B) only statement 1 is correct.
- C) only statement 2 is correct.

Question #53 of 60

Question ID: 692440

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be \$200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include \$10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown below in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	<i>LIBOR</i>	<i>Discount Factor</i>
1-Year	3.2%	0.9690
2-Year	4.1%	0.9242
3-Year	4.9%	0.8718
4-Year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

- Statement 1:* $N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
- Statement 2:* A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
- Statement 3:* For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
- Statement 4:* The value of a call option on futures is equal to the value of a portfolio with a long bond position and a short futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

Regarding statements 3 and 4 made by Widby:

- A) both statements are correct.
- B) only statement 3 is correct.
- C) only statement 4 is correct.

Question #54 of 60

Question ID: 692435

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be \$200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include \$10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown below in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	<i>LIBOR</i>	<i>Discount Factor</i>
1-Year	3.2%	0.9690
2-Year	4.1%	0.9242
3-Year	4.9%	0.8718
4-Year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

- Statement 1:* $N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
- Statement 2:* A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
- Statement 3:* For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
- Statement 4:* The value of a call option on futures is equal to the value of a portfolio with a long bond position and a short

futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

Which of the following *best* evaluates Widby's suggested use of credit default swaps to offset the credit risk of the equity swap? Widby's recommended strategy is:

- A) correct.
- B) incorrect, because the maturity of the CDS is not properly specified.
- C) incorrect, because the CDS does not reference the proper credit risk.

Question #55 of 60

Question ID: 691601

Use the following information to answer Questions 55 through 60.

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuente's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

Property type	Property #1 Multi-family	Property #2 Office building	Property #3 Retail Center
Occupancy	93%	92%	95%
Square feet or # units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	\$3,900,000	\$4,312,500	\$2,765,850
Other income	<u>\$ 25,000</u>	<u>\$ 440,000</u>	<u>\$ 780,000</u>
Potential gross income	\$3,925,000	\$4,752,500	\$3,545,850
Vacancy loss	<u>\$ 273,000</u>	<u>\$ 425,000</u>	<u>\$ 138,293</u>
Effective gross income	\$3,652,000	\$4,327,500	\$3,407,557
Property management fees	\$ 145,000	\$ 172,500	\$ 138,288
Other operating expenses	<u>\$1,800,500</u>	<u>\$2,163,750</u>	<u>\$1,703,800</u>
Net operating income (NOI)	<u>\$1,706,500</u>	<u>\$ 1,991,250</u>	<u>\$1,565,469</u>

Other information:

1. Each property except Property #3 is located in an active market.
2. Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.
3. Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1: Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	\$1,706,500	\$1,774,760	\$1,845,750	\$1,919,580	\$1,996,364

Exhibit 3: Property #1: DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%
Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of \$30 million for the value for Property #1.

Which property valuations are *most likely* to be heavily affected by their unique characteristics?

- A) Property #1 and Property #2.
- B) Property #1 and Property #3.
- C) Property #2 and Property #3.

Question #56 of 60

Question ID: 691602

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuente's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

Property type	Property #1 Multi-family	Property #2 Office building	Property #3 Retail Center
Occupancy	93%	92%	95%
Square feet or # units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	\$3,900,000	\$4,312,500	\$2,765,850
Other income	<u>\$ 25,000</u>	<u>\$ 440,000</u>	<u>\$ 780,000</u>
Potential gross income	\$3,925,000	\$4,752,500	\$3,545,850
Vacancy loss	<u>\$ 273,000</u>	<u>\$ 425,000</u>	<u>\$ 138,293</u>
Effective gross income	\$3,652,000	\$4,327,500	\$3,407,557
Property management fees	\$ 145,000	\$ 172,500	\$ 138,288
Other operating expenses	<u>\$1,800,500</u>	<u>\$2,163,750</u>	<u>\$1,703,800</u>
Net operating income (NOI)	<u>\$1,706,500</u>	<u>\$ 1,991,250</u>	<u>\$1,565,469</u>

Other information:

1. Each property except Property #3 is located in an active market.
2. Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.
3. Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1: Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	\$1,706,500	\$1,774,760	\$1,845,750	\$1,919,580	\$1,996,364

Exhibit 3: Property #1: DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%
Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of \$30 million for the value for Property #1.

Which property is likely to have the greatest operational risk resulting from management expenses?

- A) Property #1.
- B) Property #2.
- C) Property #3.

Question #57 of 60

Question ID: 691603

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuente's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

Property type	Property #1 Multi-family	Property #2 Office building	Property #3 Retail Center
Occupancy	93%	92%	95%
Square feet or # units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	\$3,900,000	\$4,312,500	\$2,765,850
Other income	<u>\$ 25,000</u>	<u>\$ 440,000</u>	<u>\$ 780,000</u>
Potential gross income	\$3,925,000	\$4,752,500	\$3,545,850
Vacancy loss	<u>\$ 273,000</u>	<u>\$ 425,000</u>	<u>\$ 138,293</u>
Effective gross income	\$3,652,000	\$4,327,500	\$3,407,557
Property management fees	\$ 145,000	\$ 172,500	\$ 138,288
Other operating expenses	<u>\$1,800,500</u>	<u>\$2,163,750</u>	<u>\$1,703,800</u>
Net operating income (NOI)	<u>\$1,706,500</u>	<u>\$ 1,991,250</u>	<u>\$1,565,469</u>

Other information:

- Each property except Property #3 is located in an active market.
- Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.
- Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1: Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	\$1,706,500	\$1,774,760	\$1,845,750	\$1,919,580	\$1,996,364

Exhibit 3: Property #1: DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%
Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of \$30 million for the value for Property #1.

Which approach would an appraiser most likely use for valuing Property #2?

- A) Cost approach.
- B) Income approach.
- C) Sales comparison approach.

Question #58 of 60

Question ID: 691604

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuente's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

	Property #1	Property #2	Property #3
Property type	Multi-family	Office building	Retail Center
Occupancy	93%	92%	95%
Square feet or # units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	\$3,900,000	\$4,312,500	\$2,765,850
Other income	<u>\$ 25,000</u>	<u>\$ 440,000</u>	<u>\$ 780,000</u>
Potential gross income	\$3,925,000	\$4,752,500	\$3,545,850
Vacancy loss	<u>\$ 273,000</u>	<u>\$ 425,000</u>	<u>\$ 138,293</u>
Effective gross income	\$3,652,000	\$4,327,500	\$3,407,557

Property management fees	\$ 145,000	\$ 172,500	\$ 138,288
Other operating expenses	<u>\$1,800,500</u>	<u>\$2,163,750</u>	<u>\$1,703,800</u>
Net operating income (NOI)	<u>\$1,706,500</u>	<u>\$ 1,991,250</u>	<u>\$1,565,469</u>

Other information:

1. Each property except Property #3 is located in an active market.
2. Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.
3. Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1: Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	\$1,706,500	\$1,774,760	\$1,845,750	\$1,919,580	\$1,996,364

Exhibit 3: Property #1: DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%
Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of \$30 million for the value for Property #1.

Based on Exhibits 2 and 3, the valuation for Property #1 based on the discounted cash flow approach will be *closest* to:

- A) \$22,798,000.
- B) \$24,295,000.
- C) \$24,633,000.

Question #59 of 60

Question ID: 691606

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuente's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

	Property #1	Property #2	Property #3
Property type	Multi-family	Office building	Retail Center
Occupancy	93%	92%	95%
Square feet or # units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	\$3,900,000	\$4,312,500	\$2,765,850
Other income	<u>\$ 25,000</u>	<u>\$ 440,000</u>	<u>\$ 780,000</u>
Potential gross income	\$3,925,000	\$4,752,500	\$3,545,850
Vacancy loss	<u>\$ 273,000</u>	<u>\$ 425,000</u>	<u>\$ 138,293</u>
Effective gross income	\$3,652,000	\$4,327,500	\$3,407,557
Property management fees	\$ 145,000	\$ 172,500	\$ 138,288
Other operating expenses	<u>\$1,800,500</u>	<u>\$2,163,750</u>	<u>\$1,703,800</u>
Net operating income (NOI)	<u>\$1,706,500</u>	<u>\$ 1,991,250</u>	<u>\$1,565,469</u>

Other information:

1. Each property except Property #3 is located in an active market.
2. Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.
3. Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1: Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	\$1,706,500	\$1,774,760	\$1,845,750	\$1,919,580	\$1,996,364

Exhibit 3: Property #1: DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%

Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of \$30 million for the value for Property #1.

Based on the appraised value, Amiable Life Insurance Company would be willing to loan a maximum amount *closest* to:

- A) \$20.7 million.
- B) \$21.0 million.
- C) \$21.7 million.

Question #60 of 60

Question ID: 691605

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuente's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

Property type	Property #1 Multi-family	Property #2 Office building	Property #3 Retail Center
Occupancy	93%	92%	95%
Square feet or # units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	\$3,900,000	\$4,312,500	\$2,765,850
Other income	<u>\$ 25,000</u>	<u>\$ 440,000</u>	<u>\$ 780,000</u>
Potential gross income	\$3,925,000	\$4,752,500	\$3,545,850
Vacancy loss	<u>\$ 273,000</u>	<u>\$ 425,000</u>	<u>\$ 138,293</u>
Effective gross income	\$3,652,000	\$4,327,500	\$3,407,557
Property management fees	\$ 145,000	\$ 172,500	\$ 138,288
Other operating expenses	<u>\$1,800,500</u>	<u>\$2,163,750</u>	<u>\$1,703,800</u>
Net operating income (NOI)	<u>\$1,706,500</u>	<u>\$ 1,991,250</u>	<u>\$1,565,469</u>

Other information:

- Each property except Property #3 is located in an active market.

2. Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.

3. Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1: Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	\$1,706,500	\$1,774,760	\$1,845,750	\$1,919,580	\$1,996,364

Exhibit 3: Property #1: DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%
Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of \$30 million for the value for Property #1.

.....

AIP's estimated return on equity on Property #1 using leverage as compared to return on equity without using any leverage will *most likely* be:

- A) lower.
- B) greater.
- C) the same.